ABSTRACT

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The object of my work was to determine cytotoxicity of selected new synthesised substances using suitably chosen cellular models. The subject of my experiment were xenobiotics from esters of salicylic acid (MSA58, MSA59, MSA62, MSA64, MSA65, MSA67, MSA68, MSA74, MSA76, MSA77) with potential antimicrobial activity. Cytotoxicity effect was tested by colorimetric method that is based on assessment metabolic state of cells that are able to reduce tetrazolium dye. The cellular model represents liver and kidney tissue - human liver cells HepG2 a pig renal cells LLC-PK1 was used. To qualify cytotoxicity was used variable IC_{50}.

Results of experiment document that all of tested esters of salicylanilids are cytotoxic for liver and renal cells too. Detected values IC_{50} for particular types of cells were similar. The least toxicity for hepatocytes had substance MSA 74 and it has second least toxicity for renal cells too.

Comparison between substance demostrates correlation between toxicity for liver and renal cells. All of tested substance reported higher cytotoxicity for liver cells than for renal cells, it could be due more intensive production of toxic metabolites in liver cells.

The substance MSA 74 was least hepatotoxic it has also very good antimycobacterial activity.